

REMARKS

The Examiner's attention to the present application is greatly appreciated.

Prior to the above amendments, Claims 8 - 12 were pending. Now, Claim 8 has been amended, as well as its dependent Claim 9. Furthermore, Claims 10 and 12 have been cancelled, now leaving only Claims 8, 9 and 11.

In the recent Office Action, Claims 8 - 12 were rejected under 35 U.S.C. §112. Furthermore, Claims 8 - 12 were rejected under 35 U.S.C. §101. Finally, Claims 8 - 12 were rejected under 35 U.S.C. §103. Each of these rejections are addressed below.

In light of the amendments above and comments below, it is believed that each of the claims are believed allowable and allowance of Claims 8, 9 and 11 is requested.

REJECTION UNDER 35 U.S.C. §112

In the recent Office Action, the Examiner rejected Claims 8 - 12 for two reasons. First, the Examiner indicated that it was unclear to the Examiner how the satellite can be in an unintended orbit, but still functional. Secondly, the Examiner indicated that it was unclear as to how a satellite could be launched into an unintended orbit when the Examiner understood that a claimed method to be the performance of a series of deliberate steps. Applicant responds as follows.

With respect to how a satellite can be launched into an unintended orbit but remain functional, Applicant explains the following. As understood by those skilled in the art and as understood by most laymen, satellites are launched for performing a specific function. Communication satellites are launched to relay communications. To this end, communication satellites typically include a satellite antenna for receiving and transmitting communications from one place upon the Earth to another. Weather satellites typically include still and/or motion imaging sensors for recording and transmitting atmospheric conditions on Earth. So called “SPY” satellites also carry various imaging and communication sensors and transmitting antenna for transmitting the sensor data back to Earth. Satellites are also launched to perform various scientific experiments. To this end, the orbiting satellites carry active or passive test equipment for carrying out such experiments. In other words, as understood by those skilled in the art and the public at large, satellites carry various electronic equipment for carrying out their respective function.

However, if a satellite carrying various communication, imaging or sensor electronics is launched into an unintended orbit, a satellite electronics such as the communications, imaging or sensor electronics, may be fully functional for performing its various intended tasks, but the launch of a satellite to an unintended orbit would typically make the satellite equipment inoperable.

Examples and explanation of how satellites can be fully functional, yet inoperable, is amply described throughout Applicant's specification. For example, page 4 of the present application explains the demise of Weststar 6 and Palapa B2. As understood by those skilled in the art, each of these satellites were telecommunication satellites intended to relay communication signals from one place on Earth to another. However, the launch of these two satellites failed due to a solid rocket motor failing to ignite. As explained in the specification, the satellites were "fully functional", but placed in "inoperable orbits". In other words, the telecommunication packages on both satellites were "fully functional" but the unintended orbits prohibited the satellites from operating.

Similarly, pages 22 - 24 explain the unnecessary demise of U.S. Navy satellite UHF-1 which failed to reach its intended orbit on an Atlas I launch vehicle due to a boost failure. The UHF-1 satellite carried ultra high frequency telecommunications equipment which was functional for providing telecommunications. However, after being launched to an unintended orbit, the orbit did not permit the UHF-1 telecommunications to operate due to its inappropriate orbit.

Still additional examples of satellites which remained functional after it launched, but inoperable are listed on page 6 of the present application. Page 6 lists nine satellites which were launched into unintended orbits. Satellites UHF-1, Koreasat, ChinaSat, AsiaSat, Japan COMETS, Milstar 2 and Orion 3 were all intended to provide communications. After launch, the various communications equipment onboard each of the spacecraft remained functional. However, the launch of the satellites into unintended orbits made the satellites inoperable for their intended purposes. Japan satellite ETS-6 was launched to conduct experiments. Again, the satellite equipment onboard for carrying such experiments was functional, but the launch of the satellite to an unintended orbit made much of the equipment non-operational. Finally, Air Force satellite DSP-19 carried sensors for detecting missile launches for purposes of an early warning system. These sensors remained functional, but after its launch to an unintended orbit, the satellite could not operate as part of the early warning system and thus was inoperable for its intended purpose.

Respectfully, Applicant believes that the specification provides more than sufficient explanation as to how a satellite can remain “functioning/functional” even though the satellite has been launched to an unintended orbit.

With respect to the Examiner’s argument that a claimed method must be the performance of a series of deliberate steps, and that the launch to an unintended orbit is not deliberate, Applicant has amended independent Claim 8 so that the launching of the satellite is not a deliberate step. Instead, the language has been amended to reflect that the rescue mission

provision is triggered in the event that the satellite is launched into an unintended orbit but the satellite otherwise remains functional.

In view of the amendment to Claim 8, and explanation that the claim language as to how a satellite can be in an unintended orbit but still be functional would be clearly understood by those skilled in the art, it is requested that the rejection under 35 U.S.C. §112 be withdrawn.

REJECTION UNDER 35 U.S.C. §101

The claims were rejected under 35 U.S.C. §101. Specifically, it is believed that the claims have been rejected in light of the recent Federal Circuit decision *In Re Bilski*, 88 U.S.P.Q. 2d 1385 (Fed. Cir. 2008).

Admittedly, the *In Re Bilski* decision appears to have narrowed the scope of patent protection accorded to business methods. Specifically, under *Bilski*, the Federal Circuit has indicated that the sole analysis should be the “machine or transformation” test which requires a showing that the claimed invention is either tied to a particular machine or that it transforms an “article”. Also admittedly, there appears to be some confusion as to the application of this test since it is not understood whether a claim tied to use of a computer would be sufficient for the process to be tied to a particular machine.

Nevertheless, Applicant has thoroughly amended the claims in order to overcome a rejection under 35 U.S.C. §101. Specifically, the claims have been amended so that all of the claims require that the invention be tied to a particular machine and that it transforms an “article”. Specifically, independent Claim 8 has been amended to include operation of an extension spacecraft. In addition, the claims narrowly define the extension spacecraft as including guidance navigation and control systems capable of controlling the movement of the extension spacecraft and satellite combination. Furthermore, the extension spacecraft has been limited within the claims to having sufficient propellant to move the extension spacecraft and

satellite from an unintended orbit to an intended operational orbit. The addition of the provision and operation of the extension spacecraft is believed to provide more than sufficient definition for a particular machine and its connection to the present invention.

Moreover, the only independent claim has been amended to reflect that a particular article is “transformed”. Specifically, independent Claim 8 provides for moving the satellite from an unintended orbit to an intended operational orbit. Plainly, the satellite has transformed since its place in space has been moved. Furthermore, the satellite has transformed from an inoperable satellite to one that is operational after it has been moved from its unintended orbit to an intended operational orbit.

Therefore, independent Claim 8 meets either of the alternative “machine or transformation” components of the Federal Circuit’s recent test. In light of the substantial amendments to the only independent Claim 8, it is requested that the rejection under 35 U.S.C. §101 be withdrawn.

REJECTION UNDER 35 U.S.C. §103

Previous Claims 8, 11 and 12 were rejected as being unpatentable over *Otis*, in view of *Shapiro* and further in view of *Wallstreet*. Meanwhile, the remaining Claims 9 and 10 were rejected as being unpatentable over *Otis*, *Shapiro* and *Wallstreet* and further in view of *Scott*. Respectfully, none of these references alone or even in combination suggest Applicant's invention. In fact, even if there were a suggestion to combine all four of the references cited by the Examiner, the combination would not teach two elements found in independent Claim 8. Specifically, the references do not suggest an insurance policy providing transportation of a product, let alone a satellite, to its intended destination in the event that the carrier failed. In addition, none of the references provide for insurance to insure against events where the product itself does not fail. These limitations are found in independent Claim 8 and through dependency, the remaining Claims 9 and 11.

Otis

Otis is the primary reference cited by the Patent Examiner in rejecting the present claims. *Otis* describes an insurance policy that was obtained after the satellite was launched. The insurance coverage includes two phases. In the first phase, the insurance policy provides for the payment of money in the event that the satellite fails in low orbit or until recovery by the space shuttle. The second phase of the insurance policy provides for payment of money in the event that the satellite fails in the cargo hold through reboosting it into an operational orbit.

Otis fails to disclose or suggest numerous claim limitations. *Otis* fails to describe or suggest obtaining the launch insurance policy prior to launch. *Otis* fails to describe an insurance policy for providing claim coverage in the event that a satellite is launched into an unintended orbit. *Otis* fails to describe or suggest an insurance policy providing for payment or initiation of a rescue mission in the event that the satellite is launched into an unintended orbit. Thus, *Otis* fails to disclose or suggest virtually every meaningful claim limitation of Applicant's invention.

Shapiro

Shapiro describes traditional launch insurance policies covering the launch of a satellite. *Shapiro* suggests that the only remedy for a satellite or launch failure is to provide compensation to the satellite buyer. In fact, *Shapiro* suggests against application of the present invention. For example, as correctly noted by the Examiner, *Shapiro* describes insurance that not only covers from launch to orbit, but also many days after launch to orbit. But again, the only remedy suggested within the insurance policies is to provide for the payment of money.

Moreover, paragraph 33 of *Shapiro* cited by the Examiner further teaches against Applicant's invention. *Shapiro* describes negotiations to recover \$20 million from the insurance industry for the partial loss of AsiaSat 2 launched in November 1995. However, there is no suggestion within *Shapiro* that an insurance policy include a rescue provision for rescuing AsiaSat 2. To the contrary, *Shapiro* suggests that the only remedy is a monetary payment of \$20 million.

Wallstreet Journal

The *Wallstreet Journal* article describes the payment of \$150 million in insurance claims for satellite failures. (See paragraph 1). There is no suggestion that the satellite could have been rescued or that the original insurance policy provided a rescue mission provision.

In addition, the *Wallstreet Journal* refers to the payment by insurance underwriters of \$5.5 million to NASA to have the shuttle Discovery retrieve errant satellites during a mission scheduled for November 7, 1984. Notably, these two satellites were WestStar 6 and Palapa B2 and their recovery and relaunch is thoroughly described on page 4 of Applicant's specification. However, contrary to suggesting Applicant's invention, the *Wallstreet Journal* provides further teaching against Applicant's invention. The *Wallstreet Journal* does not suggest an insurance policy obtained prior to launch of a satellite including a rescue mission provision. Instead, it describes underwriters agreeing to make a payment after the satellites have been launched to an unintended orbit. Moreover, the *Wallstreet Journal* article does not describe a rescue mission wherein a spacecraft is utilized to move a satellite from an unintended orbit to an intended orbit. Instead, the *Wallstreet Journal* describes a mission wherein a spacecraft (the shuttle Discovery) was utilized to retrieve the errant satellites and bring them back to Earth. This is far different than a rescue mission employing a spacecraft to move a satellite from an unintended orbit to an intended orbit.

Scott

Scott (U.S. Patent No. 5,806,802) describes a recovery mission including “providing for moving an unmanned extension spacecraft within proximity of the orbiting satellite, mechanically connecting the extension spacecraft to the orbiting satellite to form a docked satellite-spacecraft combination, and moving the satellite-spacecraft combination using the control systems of the extension spacecraft”.

Scott does not describe insurance policies for satellites, and like all of the other references cited by the Examiner, *Scott* provides no suggestion for obtaining an insurance policy prior to satellite launch including a rescue mission provision for providing claim coverage for transportation of a product, let alone a satellite, to its intended destination in the event that the carrier failed. In addition, *Scott*, like the references described above, does not describe an insurance policy providing for movement of a product, let alone a satellite, in the event that the product does not fail.

The Combination of *Otis, Shapiro, Wallstreet, and*
Scott Does Not Suggest Applicant’s Invention

It is a fundamental axiom of patent law, including the recent case *KSR International v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007) that each of the claim limitations must be found or suggested in the prior art in order to sustain a rejection for obviousness. Here, at least two limitations found in independent Claim 8 are not suggested in the cited prior art.

Otis describes an insurance policy obtained after satellite launch providing for the payment of money in the event of satellite failure.

Shapiro describes satellite insurance policies in general and their provision for providing money in the event of launch or satellite failure.

The *Wallstreet Journal* article describes a contract negotiated after satellite launch including the insurance underwriter's payment of money to NASA to pay for a retrieval of a satellite from orbit to be brought back to Earth.

Finally, *Scott* does not describe an insurance policy of any kind.

Plainly, none of these references suggest an insurance policy including two elements found in every claim. Specifically, the references do not suggest an insurance policy including a rescue mission provision providing for transportation of a product, let alone a satellite, to its intended destination in the event the carrier has failed (launch failure). In addition, none of the references describe an insurance policy providing for a rescue mission in the event that a product, let alone a satellite, remains functional.

Since these two limitations are not suggested in the prior art, Claim 8 and its dependent Claims 9 and 11 should be allowed.

RESPONSE TO EXAMINER'S COMMENTS

Otis describes an insurance policy obtained after launch providing for payment of money in the event of failure. *Shapiro* describes an insurance policy obtained prior to launch providing for payment of money in the event of satellite or launch failure. The Examiner conceded that neither *Otis* nor *Shapiro* disclose both “paying a rescue mission provider of a rescue mission by the guarantor in accordance with the launch insurance policy” (page 7, paragraph 1). However, the Examiner incorrectly states that “*Wallstreet* discloses paying a rescue mission provider of a rescue mission by the guarantor in accordance with the launch insurance policy was a common payment arrangement in the repair or retrieval of satellites under satellite insurance contracts.” This statement is false for several reasons. First and foremost, *Wallstreet* does not describe a guarantor paying for a rescue mission and involving the movement of a satellite from an unintended orbit to an intended operational orbit. Instead, *Wallstreet* suggests that satellites launched to unintended orbits should be retrieved and brought back to Earth. Secondly, there is no suggestion in *Wallstreet* that the insurance policy provide for a mission to retrieve the two satellites. To the contrary, *Wallstreet* describes a contract executed after the satellites were launched into an unintended orbit. Thus, even if the Examiner were correct that “one would have been motivated to include this feature to maximize the cost recovered by the insurer, while minimizing company resources expended”, the incorporation of this feature would be to include a provision within the insurance policy to provide for the retrieval of satellites from orbit so as to be brought back to Earth. In fact, the *Wallstreet Journal* article indicated that the satellites had to

be “repaired and then relaunched”. There is no suggestion within *Wallstreet* for the satellites remaining functional, a limitation found in Applicant’s claims.

CONCLUSION

The claims are believed to be in condition for allowance and notice thereof is respectfully requested. It is believed that the amendments and arguments set forth herein are sufficient to overcome the rejections under 35 U.S.C. §§112, 101 and 103. Accordingly, it is requested that the Examiner issue a Notice of Allowance with regards to pending Claims 8, 9 and 11.

If there are any remaining issues that need to be resolved, it is requested that a telephone call be placed to the undersigned.

Respectfully submitted,



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